



Management User Guide

Table of Content

1. INTRODUCTION	5
1.1 FEATURES	6
1.2 BASIC OPERATING INFORMATION	7
1.2.1 Default username and Password	7
1.2.2 Default IP addresses	7
1.2.3 Default profile	7
2. CONFIGURING THE SWITCH BY WEB INTERFACE.....	8
2.1 SYSTEM	8
2.1.1 System Info.....	8
2.1.2 System log.....	9
2.1.3 SNMP setup	10
2.1.4 General setup.....	10
2.1.5 Reboot.....	11
2.1.6 Synchronization with Time server (SNTP)	12
2.1.7 User Management.....	12
2.1.8 Log out.....	12
2.1.9 Server services.....	13
2.1.10 Alarm	13
2.1.11 Daisy control.....	13
2.1.12 Software upgrade and Configuration backup	14
2.2 ADSL.....	15
2.2.1 xDSL port setup	15
2.2.1.1 Map profile	15
2.2.1.2 copy Settings to other ports	16
2.2.1.3 PVC Map (single and Multiple PVC setup)	16
2.2.1.4 PVC show	17
2.2.1.5 PVC delete	17
2.2.2 Multiple port xDSL set up.....	18
2.2.3 xDSL profiles	19
2.2.3.1 Port profile	19
2.2.3.2 VC profile	19
2.2.3.3 Alarm profile	20
2.2.3.4 Map alarm profile	20
2.2.4 Line Diagnostic – DELT.....	21
2.3 SWITCH	21
2.3.1 VLAN	21

2.3.2 Ethernet Port Setting	22
2.3.3 MAC management	23
2.3.4 IGMP snooping.....	24
2.3.5 Port authentication 802.1x	24
2.3.6 Queue MAP	25
2.3.7 DHCP relay – option 82	26
2.3.8 Loop test	26
2.4 STATUS	26
2.4.1 Channel status	26
2.4.2 Line status.....	27
2.4.4 Line state	27
2.5 IP.....	28
2.5.1 IP setup.....	28
2.5.2 ARP table Display and flush.....	28
2.5.3 PING function.....	29
2.5.4 VLAN (For management)	29
2.6 PERFORMANCE	29
2.6.1 ADSL performance	29
2.7 STATISTICS.....	30
2.7.1 Gigabit Ethernet port counters.....	30
2.7.2 Utopia counter.....	30
2.7.3 VCC counter	30
2.7.4 Ether port counter	31
2.7.5 Vcencap counter	31
2.7.6 Excpetion counter.....	31
2.8 CONFIGURATION	32
2.8.1 Configuration save	32
2.8.2 Restore.....	32
3. CONFIGURING NCT240 BY CLI INTERFACE	33
LOG IN PROCESS.....	35
COMMAND FORMAT	37
SYSTEM:	38
<i>daisycontrol</i>	38
<i>Update</i>	39
<i>Info</i>	40
<i>User</i>	40
<i>Reboot</i>	41
<i>SNMP</i>	42

<i>Server</i>	42
<i>Syslog</i>	43
<i>Time</i>	44
<i>Date</i>	44
<i>Timeserver</i>	45
<i>Alarm</i>	46
ADSL:	47
<i>Enable</i>	47
<i>Disable</i>	48
<i>Profile</i>	49
<i>Name</i>	49
<i>Line diagnostic</i>	50
<i>Vcprofile</i>	50
<i>Alarmprofile</i>	51
<i>PVC</i>	51
STATUS:	52
<i>Chstatusget</i>	52
<i>Linestatusget</i>	53
<i>Linestateget</i>	53
SWITCH:.....	54
<i>Queue map</i>	54
<i>VLAN</i>	55
<i>MAC</i>	55
<i>802.1x</i>	56
<i>IGMP snooping</i>	56
<i>DHCP relay, option 82</i>	57
<i>Eth</i>	57
<i>Loop test</i>	58
IP:	58
<i>show</i>	58
<i>Arp</i>	59
<i>Set</i>	59
<i>Gateway</i>	60
<i>Route</i>	60
<i>Ping</i>	60
STATISTICS:	61
<i>Adsl</i>	61
<i>Ethuto</i>	62

CONFIG:62

Save63

Restore.....63

4. TROUBLESHOOTING.....64

 TROUBLESHOOTING GUIDE.....64

6. GLOSSARY66

1. Introduction

This document is intended for First Office Acceptance test plan for NetComm's **ADSL2+ Broadband Access Switch solution (BAS)**. The Netcomm NCT240 Broadband Access Switch contains 24 ADSL2/2+ circuits to deliver high-speed data, video and voice service over traditional twisted copper pairs by using DSL technology.

To meet the increasing demand for high-speed internet access and triple play application services. The next generation network offers a feasible functionality of integrated services with the most cost effective architecture. Next generation broadband access networks are designed to provide rich video contents, DSL , POTS and VoIP services over traditional copper wire infrastructure. These types of services will be supported on NGN architecture simultaneously. DSL is used as the data service platform for traditional POTS technology which is used for voice services. The multimedia and local content-rich applications can also be easily implemented on this NGN architecture.

xDSL (Digital Subscriber Line) is a technology for delivering high-bandwidth information over copper telephone lines. xDSL service can deliver POTS and high data rate services simultaneously over a single twisted-wire pair. The POTS and data service are simultaneous and independent; the xDSL data service does not affect the POTS service. xDSL uses the bandwidth above the 4-kHz POTS frequency to transmit duplex data using digital modulation techniques from the C.O side to the Customer Premises Equipment (CPE).

ADSL is a form of xDSL service that delivers an asymmetric data rate over a twisted copper pair. ADSL delivers a higher rate downstream, towards the customer premises and lower rate upstream, from the customer premises. ITU standard compliant Full-Rate ADSL2+ can deliver data rates up to 25 Mbps downstream and 1 Mbps upstream; Full-Rate ADSL can deliver data rates up to 8 Mbps downstream and 800 kbps upstream; G.Lite ADSL can deliver up to 1.5 Mbps downstream and 512 kbps upstream. The actual data rate depends on the length, gauge, and condition of the twisted-wire pair, the bandwidth of the uplink depends on the data network, and the capacity of the network service provider.

Digital Subscriber Line (DSL) dominates broadband market. The position of national telecom operators in most countries has given the advantage in reaching out to customers with broadband services over DSL.

The NCT240 Access system contains 24 ADSL2/2+ circuits to deliver high-speed data service over twisted copper pairs using industry standard Discrete Multi-Tone (DMT) line coding technology. The NCT240 complies with full-rate ADSL in accordance with ANSI T1.413 Issue 2, ITU-T G.992.1 (G.dmt), ITU-T G.992.2 (G.lite)ITU-T G.992.3 (ADSL2) and ITU G.992.5 (G.ADSL2+) protocols.

The NCT240 greatly expand broadband capabilities in the access network, enhancing the infrastructure for emerging services. With simple in-service upgrades, service providers obtain the capacity and Quality of Service (QoS) to support larger populations of narrowband and broadband users. For management, NCT240 can be easily configured by SNMP, Telnet, SSH, HTTP, HTTPS and RS-232 console.

1.1 Features

- Complete Intelligent L2 switch feature
- Intelligent DSL interworking feature
 - ◆ RFC2684 MpoA
 - ◆ VPN pass-through
 - ◆ RFC2516 PPPoE packet forwarding.
- Advanced L2+/higher layer protocol & policy control
 - ◆ GVRP/GARP/GMRP (IEEE 802.1q) (phase2)
 - ◆ STP/RSTP (IEEE 802.1d/w) (phase2)
 - ◆ IGMP Snooping
 - ◆ DHCP relay and relay agent option 82
 - ◆ Packet inspection and do policy control (filtering, forwarding..)
- Security of authentication mechanism and encryption
 - ◆ SSH/SSL
- Rich user interface for management including security
 - ◆ CLI/Telnet/SSH/SNMP/HTTP/S-HTTP
- Variety of uplink interface
 - ◆ SFP for 1000 Base-SX, LX, LHX and ZX.
 - ◆ RJ45 for 1000 Base-TX. (Default)
- Remote software upgrade

1.2 Basic operating information

1.2.1 Default username and Password

Username: admin

Password: admin

1.2.2 Default IP addresses

MGMT : (Management Ethernet port) – 192.168.1.1

UPLINKs : 192.168.0.1

1.2.3 Default profile

The NetComm NCT240 comes with the following default settings for all of the ADSL ports and it is ready to use as a basic DSLAM out of the box.

VC Profile:

Name: default

Encapsulation: LLC

VPI: 8

VCI: 35

DSL Profile:

Mode: Auto, Annex A

Latency: interleave

	Downstream	Upstream
Minimum Data Rate	4000000	512000
Maximum Data Rate	26000000	1280000
Maximum Interleave Delay Downstream	0	0
Minimum Impulse Noise Protection	0	0
Target Noise Margin	50	50
Minimum Noise Margin	10	10
Maximum Noise Margin	310	310

2. Configuring the Switch by Web Interface

Log in

The BAS (Broadband Access Switch) is an basic platform of Broadband IPSwitch that provides 2 high capacity Gigabit Ethernet uplinks and aggregates/manages 24 ADSL/ADSL2+ interfaces on user side in a single rack unit package. The ADSL interface complies with ITU G.992.1 (G.dmt), G.992.2 (G.lite), G.992.3 (ADSL2) and G.992.5 (ADSL2+) standards and connects up to 24 ADSL2/2+ modems (ATU-R).

Login to Management Interface

User Name	<input type="text"/>
Password	<input type="password"/>

2.1 System

2.1.1 System Info

Broadband Access Switch [Home](#) [Logout](#)

System Information

DeviceID:0 TargetID:0 [Refresh](#)

Switch Name	mini-DSLAM
Location information	switch-location
Contact information	Agent
Phone number	Agent-phone
Part number	134010000180
Serial number	3401004237
MGMT MAC	00:05:ca:00:42:37
Data MAC	00:05:ca:00:42:38
HW version	0A
CPLD version	2.007

This page displays the basic system information

2.1.2 System log

When you enter to the syslog page the first function visible is enable and disable, default is enabled.

The screenshot shows the 'Broadband Access Switch' management interface. The left sidebar contains a tree view with categories: Home, System (containing System Info., Syslog, SNMP, General Setup, Reboot, TimeServer, User, Logout, Server Service, Alarm, Daisy Control, Upgrade), ADSL (containing xDSL Port Setup, xDSL Profiles, Linediag), and Switch (containing VLAN, EthPortSetting, MAC). The main content area is titled 'Syslog' and includes the following elements: 'DeviceID:0 TargetID:0' with a 'Refresh' link; a 'Syslog' dropdown menu set to 'enable' with an 'Apply' button; a 'Syslog Server IP' field set to '0.0.0.0' with an 'Apply' button; a 'System Log Config' section with a 'Config' button and four log configuration entries: 'kern.* /mnt/jffs1/log/messages', '*.warning;kern.none /mnt/jffs1/log/warning', '*.err;kern.none /mnt/jffs1/log/err', and 'daemon.*;auth.info;cron.info /mnt/jffs1/log/wtmp', with a summary '*.* @192.168.1.100'; a 'Display the System Log' dropdown set to 'error' with an 'Apply' button; and a 'Syslog Message' section with a '--' placeholder.

There are three types of syslogs ,

- 1) Error log
- 2) Warning log
- 3) Message log

Show – display the syslog

Clean - The syslog can be cleaned using the syslog CLEAN option,

Config – shows the current configuration of the syslog and the syslog server IP

Syslog server IP also can be set using the same web page.

2.1.3 SNMP setup

Broadband Access Switch

[Home](#) [Logout](#)

SNMP

DeviceID:0 TargetID:0 [Refresh](#)

SNMP Community

Community	Setting
Get test	public <input type="text"/> <input type="button" value="Apply"/>
Set test	private <input type="text"/> <input type="button" value="Apply"/>

SNMP Trap Setting

Trap Community	Trap IP	Trap Port
trap	192.168.1.1	162
<input type="text"/>	0.0.0.0	162

This page is for configuring the built in SNMP agent, NCT240 support SNMP V2c

SNMP set community:

SNMP get community:

SNMP trap community and the Trap receiver IP address

2.1.4 General setup

Broadband Access Switch

[Home](#) [Logout](#)

General Setup

DeviceID:0 TargetID:0 [Refresh](#)

System Information Setting

Switch Name	Location Information
mini-DSLAM	switch-location

Contact Information	Phone Number
Agent	Agent-phone

System Time Setting

Type	Hour	Minute	Second
Current Time	22	7	49
New Time (hh:mm:ss)	<input type="text"/>	<input type="text"/>	<input type="text"/>

System Date Setting

Type	Year	Month	Day
Current Date	2013	10	21
New Date (yyyy-mm-dd)	<input type="text"/>	<input type="text"/>	<input type="text"/>

Display and Edit General information

Host Name: NCT240 Host name

Location: NCT240 location

Contact Person's Name: maintainer's name

Model: NCT240 model

User Time Server When Bootup: Select time service protocol during bootup.

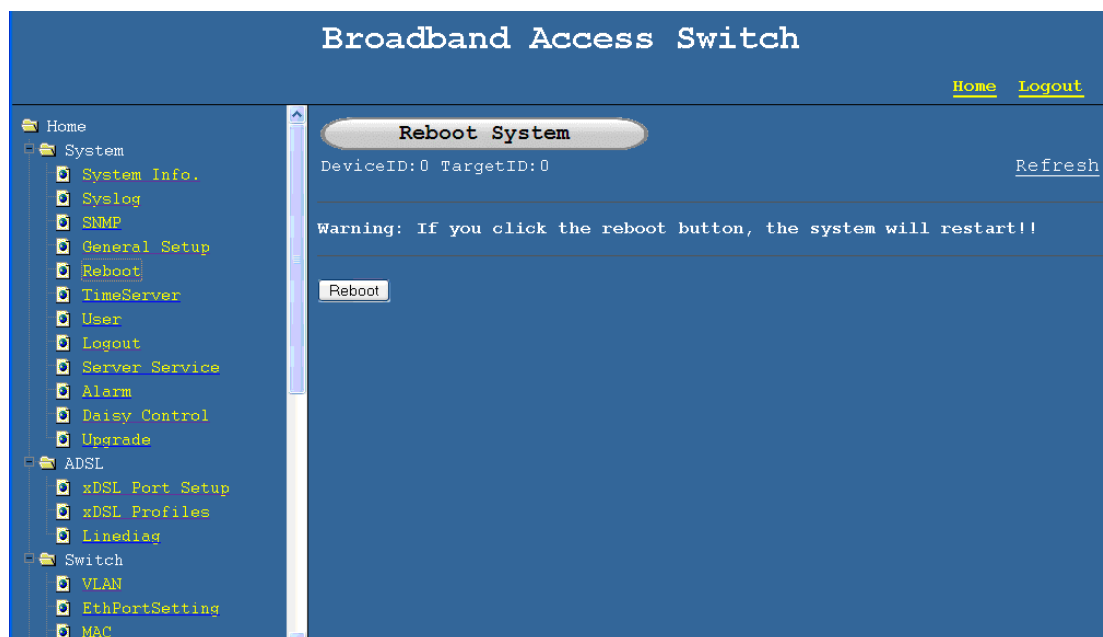
Time Server IP Address: IP address of Time server

Current Time: current time

New Time (hh:mm:ss): enter new time in hh:mm:ss format

Current Date (yyy-mm-dd): enter current date in yyyy-mm-dd format

2.1.5 Reboot



Reboot the system (ALL the unsaved settings will be lost)

2.1.6 Synchronization with Time server (SNTP)

Broadband Access Switch

[Home](#) [Logout](#)

Home

System

System Info.

Syslog

SNMP

General Setup

Reboot

TimeServer

User

Logout

Server Service

Alarm

TimeServer

DeviceID:0 TargetID:0 [Refresh](#)

TimeServer Setting

TimeServerIP	Period
192.168.1.1	Sync of Timeserver at 23:59 everyday
<input type="text" value="0.0.0.0"/> <input type="button" value="Apply"/>	<input type="text" value="day"/> <input type="button" value="Apply"/>

TimeServer Sync

2.1.7 User Management

Broadband Access Switch

[Home](#) [Logout](#)

Home

System

System Info.

Syslog

SNMP

General Setup

Reboot

TimeServer

User

Logout

Server Service

Alarm

Daisy Control

Upgrade

ADSL

xDSL Port Setup

xDSL Profiles

Linediag

Switch

VLAN

EthPortSetting

MAC

User Management

DeviceID:0 TargetID:0 [Refresh](#)

User Account

User Number:2

UserName	Group	Add	Delete
root	root	--	--
admin	admin	<input type="button" value="Modify"/>	--

Add, delete and Modify user information

2.1.8 Log out

Broadband Access Switch

[Home](#) [Logout](#)

Home

System

System Info.

Syslog

SNMP

General Setup

Reboot

TimeServer

User

Logout

Logout

Logout

Are you sure to logout?

2.1.9 Server services

The screenshot shows the 'Broadband Access Switch' configuration interface. On the left is a navigation tree with 'System' expanded, showing options like 'System Info.', 'Syslog', 'SNMP', 'General Setup', 'Reboot', 'TimeServer', 'User', 'Logout', 'Server Service', and 'Alarm'. The 'Server Service' option is selected. The main panel has a title 'Server Service' and a sub-header 'DeviceID:0 TargetID:0' with a 'Refresh' link. Below this is a table with columns 'Service Name', 'Status', 'Port', and two columns for enabling the service (a dropdown menu and an 'Apply' button).

Service Name	Status	Port	enable	Apply
Telnet	Running	23	enable	Apply
FTP	Running	21	enable	Apply
Web Server	Running	80 or 443	enable	Apply
SSH	Stop	--	enable	Apply

2.1.10 Alarm

This page is used for displaying current alarms and alarm history,

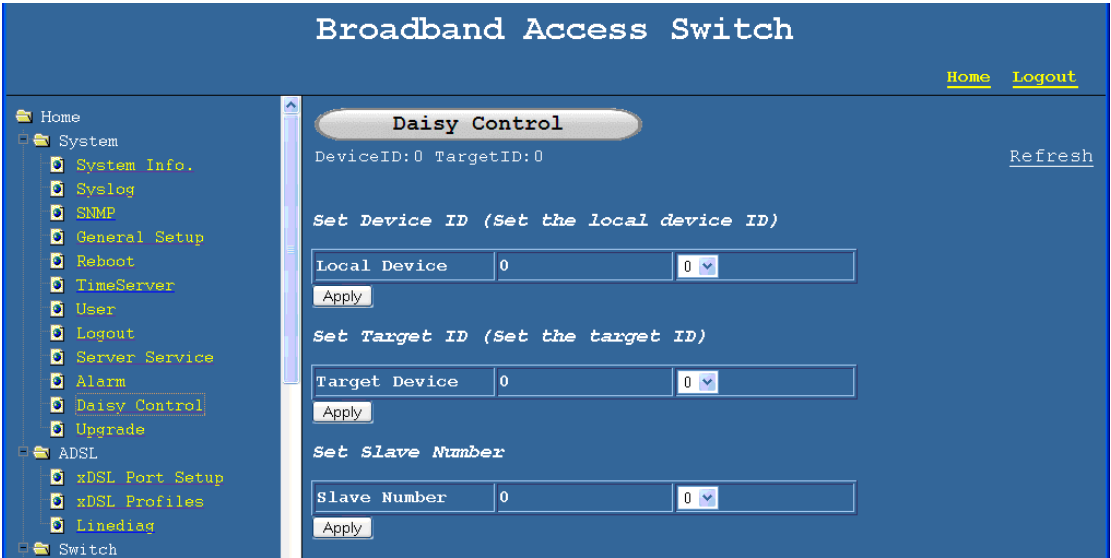
Display current alarms or Alarm history,

The screenshot shows the 'Broadband Access Switch' configuration interface. On the left is a navigation tree with 'System' expanded, showing options like 'System Info.', 'Syslog', 'SNMP', 'General Setup', 'Reboot', 'TimeServer', 'User', 'Logout', 'Server Service', 'Alarm', 'Daisy Control', 'Upgrade', 'ADSL', 'xDSL Port Setup', 'xDSL Profiles', 'Linediag', 'Switch', 'VLAN', 'EthPortSetting', and 'MAC'. The 'Alarm' option is selected. The main panel has a title 'Alarm' and a sub-header 'DeviceID:0 TargetID:0' with a 'Refresh' link. Below this is a section titled 'The recorded Alarm' with a table header 'Alarm Type'. There is a dropdown menu set to 'current' and an 'Apply' button.

Alarm Type
current

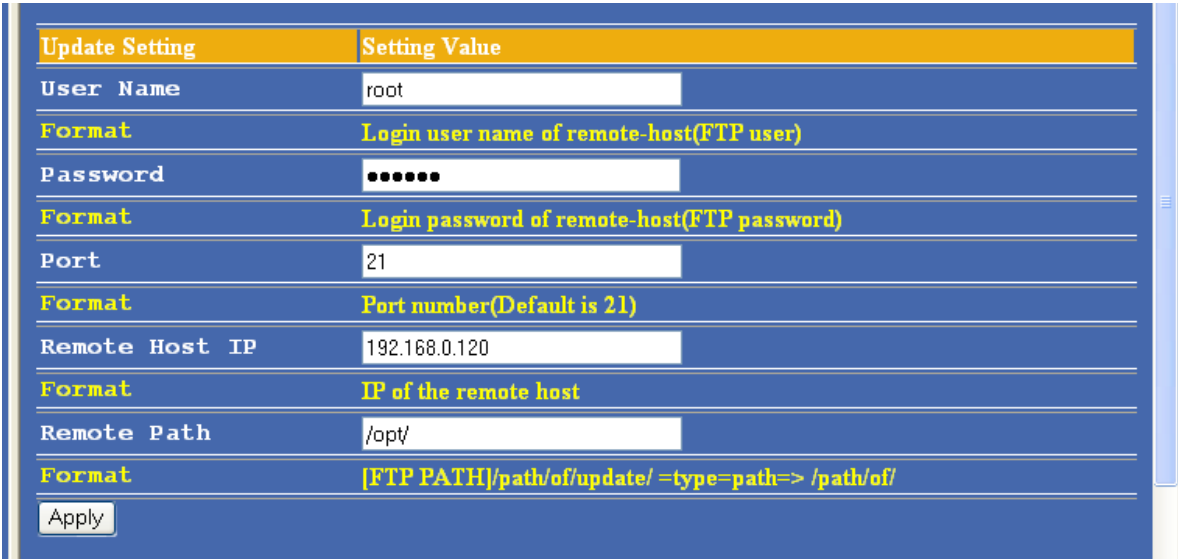
2.1.11 Daisy control

Please refer to the application note on Daisy control for more details

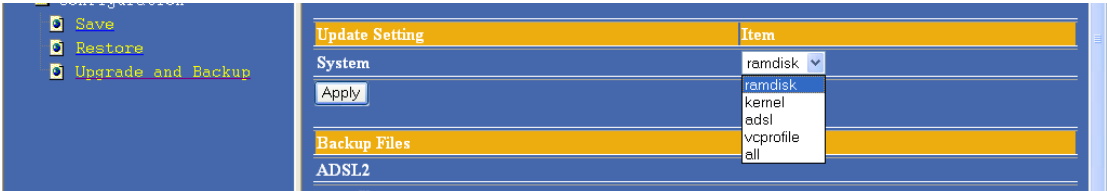


2.1.12 Software upgrade and Configuration backup

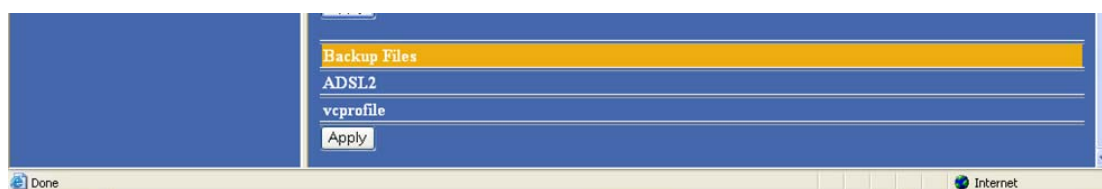
Page for setting the FTP server settings



Page for selecting which file to upgrade

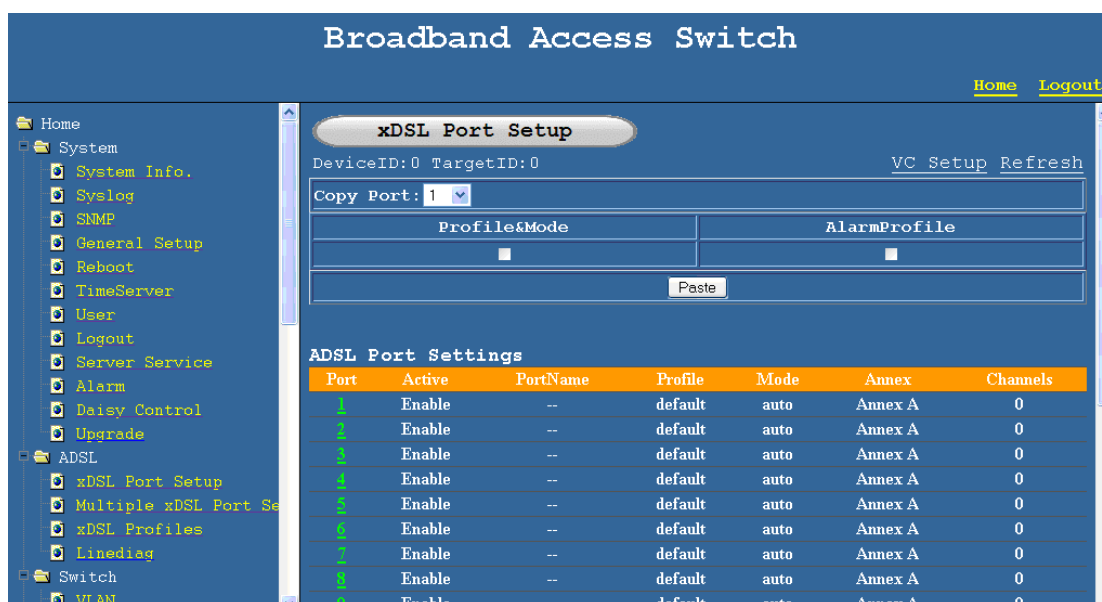


Page to back the files



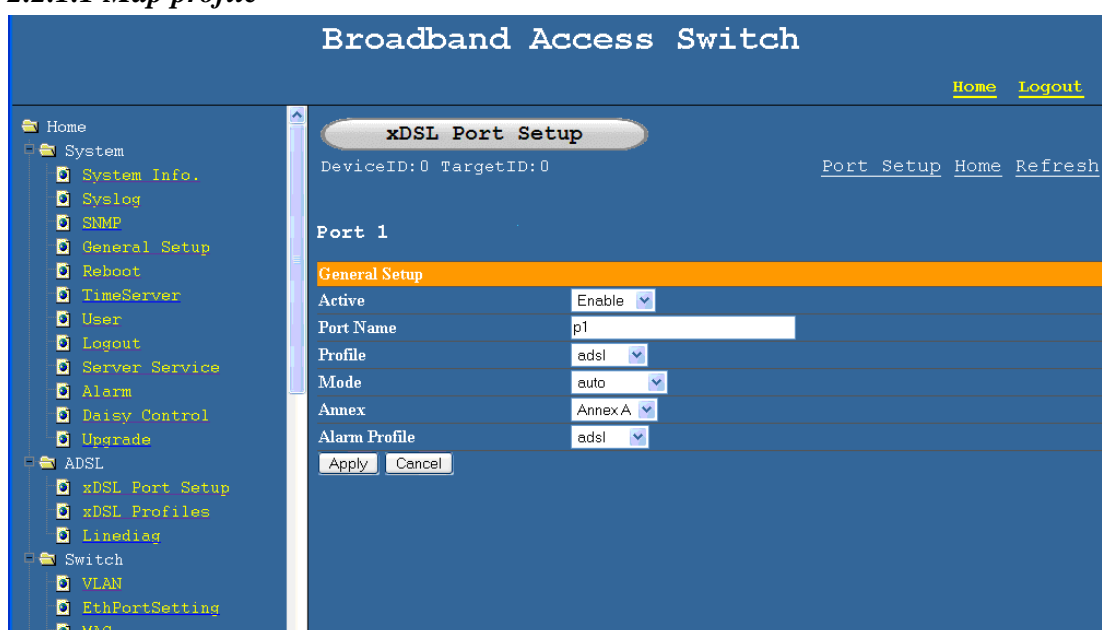
2.2 ADSL

2.2.1 xDSL port setup



Enable and Disable ADSL ports, map ADSL profiles to each port individually, copy settings of one port to another port

2.2.1.1 Map profile



Map ADSL profile, Alarm profile, ADSL mode (and the annex) to ADSL ports

2.2.1.2 copy Settings to other ports

Broadband Access Switch

[Home](#) [Logout](#)

- Home
- System
 - System Info.
 - Syslog
 - SNMP
 - General Setup
 - Reboot
 - TimeServer
 - User

xDSL Port Setup

DeviceID:0 TargetID:0 [VC Setup](#) [Refresh](#)

Copy Port: 1

Profiles&Mode	AlarmProfile
<input checked="" type="checkbox"/>	<input type="checkbox"/>

[Paste](#)

xDSL Port Setup

Select ports and click Apply [SelectALL](#) [None](#)

1	2	3	4	5	6
<input checked="" type="checkbox"/> @	<input checked="" type="checkbox"/> @	<input checked="" type="checkbox"/> @	<input type="checkbox"/> @	<input type="checkbox"/> @	<input type="checkbox"/> @
9	10	11	12	13	14
<input type="checkbox"/> @	<input type="checkbox"/> @	<input type="checkbox"/> @	<input type="checkbox"/> @	<input type="checkbox"/> @	<input type="checkbox"/> @
17	18	19	20	21	22
<input type="checkbox"/> @	<input type="checkbox"/> @	<input type="checkbox"/> @	<input type="checkbox"/> @	<input type="checkbox"/> @	<input type="checkbox"/> @

[Apply](#)

2.2.1.3 PVC Map (single and Multiple PVC setup)

Broadband Access Switch

[Home](#) [Logout](#)

- Alarm
- Daisy Control
- Upgrade
- ADSL
 - xDSL Port Setup
 - Multiple xDSL Port Setup
 - xDSL Profiles
 - Linediag
- Switch
 - VLAN
 - EthPortSetting
 - MAC
 - IGMP Snooping
 - 802.1x
 - QueueMap
 - DHCP Relay Option82
 - LoopTest
- Status
 - Channel Status
 - Line Status

VC Setup

DeviceID:0 TargetID:0 [Port Setup](#) [Refresh](#)

PVC Setting

MinPort	MaxPort	PVC ID	VC Profile	Action
1	1	1	835	Map

PVC Delete

MinPort	MaxPort	PVC ID	Action
1	1	1	DEL

PVC List

Port	VC Profile							
	1	2	3	4	5	6	7	8
1	832	--	--	--	--	--	--	--
2	832	--	--	--	--	--	--	--
3	832	--	--	--	--	--	--	--
4	832	--	--	--	--	--	--	--
5	832	--	--	--	--	--	--	--

PVC can be set to a range of ports or to Individual ports using this page.

2.2.2 Multiple port xDSL set up

This page is used for configuring several ports with the same configuration:

Multiple xDSL Port Setup

DeviceID:0 TargetID:0 [VC Setup](#) [Refresh](#)

ADSL Port Settings

<input type="checkbox"/>	Port	Active	PortName	Profile	Mode	Annex	Channels
<input checked="" type="checkbox"/>	1	Enable	--	default	auto	Annex A	0
<input type="checkbox"/>	2	Enable	--	default	auto	Annex A	0
<input checked="" type="checkbox"/>	3	Enable	--	default	auto	Annex A	0
<input type="checkbox"/>	4	Enable	--	default	auto	Annex A	0
<input type="checkbox"/>	5	Enable	--	default	auto	Annex A	0
<input checked="" type="checkbox"/>	6	Enable	--	default	auto	Annex A	0
<input type="checkbox"/>	7	Enable	--	default	auto	Annex A	0
<input type="checkbox"/>	8	Enable	--	default	auto	Annex A	0
<input type="checkbox"/>	9	Enable	--	default	auto	Annex A	0
<input type="checkbox"/>	10	Enable	--	default	auto	Annex A	0
<input type="checkbox"/>	11	Enable	--	default	auto	Annex A	0
<input type="checkbox"/>	12	Enable	--	default	auto	Annex A	0
<input type="checkbox"/>	13	Enable	--	default	auto	Annex A	0
<input type="checkbox"/>	14	Enable	--	default	auto	Annex A	0
<input type="checkbox"/>	15	Enable	--	default	auto	Annex A	0
<input type="checkbox"/>	16	Enable	--	default	auto	Annex A	0
<input type="checkbox"/>	17	Enable	--	default	auto	Annex A	0
<input type="checkbox"/>	18	Enable	--	default	auto	Annex A	0
<input type="checkbox"/>	19	Enable	--	default	auto	Annex A	0
<input type="checkbox"/>	20	Enable	--	default	auto	Annex A	0
<input type="checkbox"/>	21	Enable	--	default	auto	Annex A	0
<input type="checkbox"/>	22	Enable	--	default	auto	Annex A	0
<input type="checkbox"/>	23	Enable	--	default	auto	Annex A	0
<input type="checkbox"/>	24	Enable	--	default	auto	Annex A	0

After selecting the ports, click on Apply:

Port selected :1,3,6

General Setup

Active

Port Name

Profile

Mode

Annex

Alarm Profile

2.2.3 xDSL profiles

2.2.3.1 Port profile

Broadband Access Switch

[Home](#) [Logout](#)

- Home
- System
 - System Info.
 - Syslog
 - SNMP
 - General Setup
 - Reboot
 - TimeServer
 - User
 - Logout
 - Server Service
 - Alarm
 - Daisy Control
 - Upgrade
- ADSL
 - xDSL Port Setup
 - xDSL Profiles**
 - Linediag
- Switch
 - VLAN
 - EthPortSetting
 - MAC

Port Profile

DeviceID:0 TargetID:0 [VC Profile](#) [Alarm Profile](#) [Refresh](#)

Name	Latency Mode	Down/Up Stream Rate(bps)		Select
adsl	interleave	26000000/1280000		<input type="radio"/>
default	interleave	8000000/300000		<input checked="" type="radio"/>

[Modify](#) [Delete](#)

Name:

Latency Mode:

	Down Stream	Up Stream
Min Rate	4000000 (32000~3840000bps)	512000 (32000~3840000bps)
Max Rate	26000000 (32000~32730000bps)	1280000 (32000~3830000bps)
Interleave Delay	0 (0~63)	0 (0~63)
Impulse Noise Protect	0 (0~32)	0 (0~32)
Target SNR	60 (0~310)	60 (0~31)
Min SNR	10 (0~310)	10 (0~310)
Max SNR	310 (-1~310)	310 (-1~310)

[Add](#)

Done

ADSL profiles can be added and deleted using this page

2.2.3.2 VC profile

Broadband Access Switch

[Home](#) [Logout](#)

- Home
- System
 - System Info.
 - Syslog
 - SNMP
 - General Setup
 - Reboot
 - TimeServer
 - User
 - Logout
 - Server Service
 - Alarm
 - Daisy Control
 - Upgrade

VC Profile

DeviceID:0 TargetID:0 [Profile](#) [Alarm Profile](#) [Refresh](#)

Name	EncapsulationType	VPI/VCI	Select
835	0	8/35	<input checked="" type="radio"/>

[Modify](#) [Delete](#)

VC Profile Name:

EncapsulationType (0 | 1) (0:LLC, 1:VCMUX):

VPI (0~4095):

VCI (0~65535):

[Add](#)

VC profile can be added using this page

2.2.3.3 Alarm profile

Broadband Access Switch

Home Logout

Alarm Profile

DeviceID:0 TargetID:0 Port Profile VC Profile Refresh

FileName	VALUE
Name	default
Threshold	VALUE
AtucThresh15MinCodingViolations	0 (0-900)
AtucThresh15MinCorrected	0 (0-900)
AturThresh15MinCodingViolations	0 (0-900)
AturThresh15MinCorrected	0 (0-900)
AtucThresh15MinFecs	0 (0-900)
AtucThresh15MinEs	0 (0-900)
AtucThresh15MinSes	0 (0-900)
AtucThresh15MinLoss	0 (0-900)
AtucThresh15MinUas	0 (0-900)
AturThresh15MinFecs	0 (0-900)
AturThresh15MinEs	0 (0-900)
AturThresh15MinSes	0 (0-900)
AturThresh15MinLoss	0 (0-900)

SET alarm profile

2.2.3.4 Map alarm profile

Broadband Access Switch

Home Logout

xDSL Port Setup

DeviceID:0 TargetID:0 Port Setup Home Refresh

Port 1

General Setup

Active Enable

Port Name p1

Profile adsl

Mode auto

Annex Annex A

Alarm Profile adsl

Apply Cancel

Alarm profile

Map the Alarm profile

2.2.4 Line Diagnostic – DELT

Line Diagnostic

DeviceID:0 TargetID:0

Refresh

PortNumber

1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

Apply

2.3 Switch

2.3.1 VLAN

VLAN Basic Setting

DeviceID:0 TargetID:0

VlanAdvSetting

DisplayVlanSetting

Refresh

Basic VLAN Setting

Default VLAN

Priority

MinPortID

PVC ID

MaxPortID

PVC ID

0

(0~4095)

0

(0~7)

1

1

1

1

Apply

VLAN SwitchMode

Mode

Forwarding by MAC only

Apply

VLAN FrameType

FrameType

MinPortID

PVC ID

MaxPortID

PVC ID

Admit both untagged and tagged packets

1

1

1

1

Apply

- Default VLAN
- Stack VLAN
- Priority
- Tag mode
- Strip mode

Forwarding method

Frame types

2.3.2 Ethernet Port Setting

Daisy Control

Upgrade

ADSL

xDSL Port Setup

xDSL Profiles

Linediag

Switch

VLAN

EthPortSetting

MAC

IGMP Snooping

802.1x

QueueMap

DHCP Relay Option82

LACP

LoopTest

Status

Channel Status

Line Status

Line State

IP

IP Setup

Broadband Access Switch

Home

Logout

Ethernet Port Setting

DeviceID:0 TargetID:0

Refresh

GE Port Control

Port	State	Action
0	Enable	Enable <input type="button" value="Apply"/>
1	Enable	Enable <input type="button" value="Apply"/>

Flow Enable

Port	State	Action
GE Port	Disable	Disabled <input type="button" value="Apply"/>

Flow Control

PauseFrame	Threshold	Action
Stop	0	0 (0~8191)
Start	0	0 (0~8191)

Uplink 1 and 2 enable and disable

GE Port Control

Port	State	Action
0	Enable	Enable <input type="button" value="Apply"/>
1	Enable	Enable <input type="button" value="Apply"/>

Flow control configuration

Flow Control

PauseFrame	Threshold	Action
Stop	0	0 (0~8191)
Start	0	0 (0~8191)

Apply

2.3.3 MAC management

This page is used for setting up the MAC aging time for the L2 switch feature in NCT240 and for setting up the MAC filter,

MAC aging time setting – Default is NO MAC ageing

Broadband Access Switch

[Home](#) [Logout](#)

- ☐ Daisy Control
- ☐ Upgrade
- ☐ ADSL
 - ☐ xDSL Port Setup
 - ☐ xDSL Profiles
 - ☐ Linediag
- ☐ Switch
 - ☐ VLAN
 - ☐ EthPortSetting
 - ☐ **MAC**
 - ☐ IGMP Snooping
 - ☐ 802.1x
 - ☐ QueueMap
 - ☐ DHCP Relay Option82
 - ☐ LACP
 - ☐ LoopTest
- ☐ Status
 - ☐ Channel Status
 - ☐ Line Status
 - ☐ Line State
- ☐ IP
 - ☐ IP Setup

MAC

DeviceID:0 TargetID:0 [Refresh](#)

AgingTime

MAC_TableAgingTime	Setting
none	1 <input type="button" value="Apply"/>

[1(immediately),2(20 sec),3(5 mins),4(15 mins),5(1 hour),6(4 hours),7(1 day),8(none)]

Mac Filter

MAC Address	Action
11:22:33:44:55:66	<input type="button" value="Add"/>

Mac Filter Delete

Index	Action
1 <input type="button" value="delete"/>	

Mac Filter Entries Table

Index	Entries
NO	Entries

MAC filter settings, up to 20 MAC addresses can be added to the filter list.

Mac Filter

MAC Address	Action
11:22:33:44:55:66	<input type="button" value="Add"/>

Mac Filter Delete

Index	Action
1 <input type="button" value="delete"/>	

Mac Filter Entries Table

Index	Entries
NO	Entries

MAC aging time settings – (if the MAC ageing time is set to “**immediately**” the packet loss is very large due to MAC learning process every second)

AgingTime

MAC_TableAgingTime	Setting
none	1 <input type="button" value="Apply"/>

[1(immediately),2(20 sec),3(5 mins),4(15 mins),5(1 hour),6(4 hours),7(1 day),8(none)]

2.3.4 IGMP snooping

IGMP

DeviceID:0 TargetID:0
[Refresh](#)

IGMP Snooping	FastLeave	VPI/VCI/VID/PRI
enable	enable	8/35/4095/0

Total pkt rcvd	Valid pkt rcvd	Invalid pkt rcvd	Leave rcvd	Report rcvd
36	36	0	0	36

IGMP Snooping

Enable ▾
Apply

FastLeave

Enable ▾
Apply

VPI/VCI/VID/PRI

VPI: (0~4095)
VCI: (0~65535)
VID: (0~4095)
PRI: (0~7)
Apply

This page is for configuring IGMP snooping feature, IGMP snooping can be enabled for PVC, VLAN. IGMP snooping and IGMP fast leave feature can be enabled and disabled.

2.3.5 Port authentication 802.1x

802.1x configure page

802.1x

DeviceID:0 TargetID:0
[802.1x Setting](#) [Refresh](#)

802.1x Protocol

State	Status
Enable	Enable ▾

Apply

PortMode

MinPort ID	MaxPort ID	PortMode
1 ▾	1 ▾	forceunauthorized ▾

Apply

Port Control

MinPort ID	MaxPort ID	Status
1 ▾	1 ▾	Enable ▾

Apply

Radius Server Config

RadiusServerIP	ServerPort	AuthPort	BasIP	aucNasIdentifier	SharedKey
192.168.1.1	1812	1813	192.168.1.210	testkey	testkey

192.168.1.1 1812 1813 192.168.1.210 testkey testkey

Timer Setting

quietPeriod(0~65535)	txPeriod(1~65535)	suppTimeout(1~65535)	serverTimeout(1~65535)
60	15	30	30

60 15 30 30

802.1x monitor page:

802.1x

DeviceID:0 TargetID:0 [802.1x](#) [Refresh](#)

Port Setting

Port	IsEnable	PortMode	State
1	Disable	ForceAuthorized	Initialize
2	Disable	ForceAuthorized	Initialize
3	Disable	ForceAuthorized	Initialize
4	Disable	ForceAuthorized	Initialize
5	Disable	ForceAuthorized	Initialize
6	Enable	Auto	Authenticated
7	Disable	ForceAuthorized	Initialize
8	Disable	ForceAuthorized	Initialize
9	Enable	Auto	Initialize

2.3.6 Queue MAP

QueueMap

DeviceID:0 TargetID:0 [Refresh](#)

QueueMap

Priority	Queue
0	0

QueueMap Display

Priority	Queue
0	3
1	3
2	2
3	2
4	1
5	1
6	0
7	0

2.3.7 DHCP relay – option 82

DHCP Relay Option82

DeviceID:0 TargetID:0 [Refresh](#)

DHCP Relay Option82 Status

Option 82	Server IP
On	192.168.1.1

DHCP Relay Option82 Activation

State

On

DHCP Server

Server IP

0.0.0.0

2.3.8 Loop test

Loop Test

DeviceID:0 TargetID:0 [Refresh](#)

Loop Test

ingutopia	egutopia	ingge	egge
<input type="button" value="Test"/>	<input type="button" value="Test"/>	<input type="button" value="GEO"/> <input type="button" value="Test"/>	<input type="button" value="GEO"/> <input type="button" value="Test"/>

2.4 Status

2.4.1 Channel status

Broadband Access Switch

[Home](#) [Logout](#)

Channel Status

DeviceID:0 TargetID:0 [Refresh](#)

Port	Channel	Direction	ActualDataRate	PreviousDataRate	ActualInterleaveDel
1	0	UpStream	0	1101102	0
1	0	DownStream	0	25659414	0
2	0	UpStream	0	1276983	0
2	0	DownStream	0	24448000	0
3	0	UpStream	0	1108829	0
3	0	DownStream	0	25595448	0
4	0	UpStream	0	1120000	0
4	0	DownStream	0	11552000	0
5	0	UpStream	0	1276983	0
5	0	DownStream	0	24448000	0
6	0	UpStream	0	1276983	0
6	0	DownStream	0	24448000	0
7	0	UpStream	0	1276983	0
7	0	DownStream	0	24448000	0
8	0	UpStream	0	1276983	0
8	0	DownStream	0	24448000	0
9	0	UpStream	0	1276983	0
9	0	DownStream	0	24448000	0

Done

Display the channel status of each port Upstream and Downstream.

2.4.2 Line status

Broadband Access Switch

[Home](#) [Logout](#)

Daisy Control

Upgrade

ADSL

- xDSL Port Setup
- xDSL Profiles
- Linediag

Switch

- VLAN
- EthPortSetting
- MAC
- IGMP Snooping
- 802.1x
- QueueMap
- DHCP Relay Option82
- LACP
- LoopTest

Status

- Channel Status
- Line Status
- Line State

IP

- IP Setup
- ARP Table

Done

Line Status

DeviceID:0 TargetID:0 [Refresh](#)

Note: Function is only available if line is in showtime

Port	Direction	LATN	SATN	ATTNDR	ACTPS	ACTATP
1	UpStream	0	0	1104000	-420	103
1	DownStream	0	1	26336000	-140	91
3	UpStream	0	0	1132000	-420	103
3	DownStream	0	1	26592000	-140	91
5	UpStream	0	0	1272000	-410	114
5	DownStream	0	1	27000000	-215	15
6	UpStream	0	0	1308000	-410	114
6	DownStream	0	1	27008000	-205	26
7	UpStream	0	0	1300000	-420	104
7	DownStream	0	1	26960000	-205	25
8	UpStream	0	0	1312000	-410	114
8	DownStream	0	1	26944000	-213	17
9	UpStream	0	0	1340000	-419	106
9	DownStream	0	1	27100000	-226	4
11	UpStream	0	0	1300000	-420	104
11	DownStream	0	1	26876000	-186	42

Display the Line status for each line.

2.4.4 Line state

Broadband Access Switch

[Home](#) [Logout](#)

Daisy Control

Upgrade

ADSL

- xDSL Port Setup
- xDSL Profiles
- Linediag

Switch

- VLAN
- EthPortSetting
- MAC
- IGMP Snooping
- 802.1x
- QueueMap
- DHCP Relay Option82
- LACP
- LoopTest

Status

- Channel Status
- Line Status
- Line State

IP

- IP Setup
- ARP Table

Done

Line State

DeviceID:0 TargetID:0 [Refresh](#)

Port	Line State
1	showtime tc sync
2	showtime tc sync
3	showtime tc sync
4	showtime tc sync
5	showtime tc sync
6	showtime tc sync
7	showtime tc sync
8	showtime tc sync
9	showtime tc sync
10	showtime tc sync
11	showtime tc sync
12	showtime tc sync
13	showtime tc sync
14	showtime tc sync
15	showtime tc sync
16	showtime tc sync
17	showtime tc sync
18	showtime tc sync
19	showtime tc sync

This page displays the current state of the line.

2.5 IP

2.5.1 IP setup

IP Setup

DeviceID:0 TargetID:0 [Refresh](#)

ixp0

Type		
IP	192.168.0.210	<input type="button" value="Apply"/>
Mac Address	00:05:ca:01:00:00	<input type="button" value="Apply"/>
NetMask	0.0.0.0	<input type="button" value="Apply"/>
Gateway	0.0.0.0	

eth0

Type		
IP	192.168.1.210	<input type="button" value="Apply"/>
Mac Address	00:05:ca:01:00:01	<input type="button" value="Apply"/>
NetMask	0.0.0.0	<input type="button" value="Apply"/>
Gateway	0.0.0.0	

Gateway

Type		
Gateway	0.0.0.0	<input type="button" value="Apply"/>

VLAN Setting and Status

Type		
VLAN Status	Disable	VID:None
VLAN Setting	enable <input type="button" value="v"/>	
VID(1~4094):1		<input type="button" value="Apply"/>

For Setting IP, Net mask and Default gateway for two 1000base uplink ports.

For setting IP, Net mask and Default gateway for the Management 100base Ethernet port.

2.5.2 ARP table Display and flush

ARP Table

DeviceID:0 TargetID:0 [Refresh](#)

ARP	Show <input type="button" value="v"/>
Device	ixp0 <input type="button" value="v"/>
<input type="button" value="Apply"/>	

For display and Flush ARP table

2.5.3 PING function

PING		
DeviceID:0 TargetID:0		Refresh
Host IP	Times	
172.25.105.23	3	<input type="button" value="Apply"/>

For pinging any IP address for diagnostic purposes.

2.5.4 VLAN (For management)

VLAN Setting and Status		
Type		
VLAN Status	Disable	VID: None
VLAN Setting	enable <input type="button" value="v"/>	
VID(1~4094): 1		<input type="button" value="Apply"/>

2.6 Performance

2.6.1 ADSL performance

ADSL Performance		
DeviceID:0 TargetID:0		Refresh
Current Performance		
	Port	Interval
15MinutesPerformance <input type="button" value="v"/>	1 <input type="button" value="v"/>	0 <input type="button" value="Apply"/>
History Performance		
	Port	Interval
15MinutesPerformance <input type="button" value="v"/>	1 <input type="button" value="v"/>	<input type="button" value="Apply"/>

For 15 minutes to 1days performance data for NCT240

2.7 Statistics

2.7.1 Gigabit Ethernet port counters

GE Counters

DeviceID:0 TargetID:0

[Refresh](#)

GE 0 Counters

bytesTx	ucPktTx	mcPktTx	bcPktTx	dropTx	CRC_ErrorTx	ugPktTx	ogPktTx
1855874	19300	7	1957	0	0	0	0
uePktTx	oePktTx	gpPktTx	rs64PktTx	rs127PktTx	rs255PktTx	rs511PktTx	rs1023Pk
0	0	0	2950	17325	258	710	21
rs1518PktTx							
0							
bytesRx	ucPktRx	mcPktRx	bcPktRx	pausePktRx			
2214047	19586	93	1066	0			

GE 1 Counters

bytesTx	ucPktTx	mcPktTx	bcPktTx	dropTx	CRC_ErrorTx	ugPktTx	ogPktTx
0	0	0	0	0	0	0	0
uePktTx	oePktTx	gpPktTx	rs64PktTx	rs127PktTx	rs255PktTx	rs511PktTx	rs1023Pk
0	0	0	0	0	0	0	0
rs1518PktTx							
0							
bytesRx	ucPktRx	mcPktRx	bcPktRx	pausePktRx			
0	0	0	0	0			

2.7.2 Utopia counter

Utopia Counters	
DeviceID:0 TargetID:0	
UTOPIA port rx and tx counters	
Port	
0	Apply

Port 1~8 = Utopia port 0~7

Port 9~16 = Utopia port 32~39

Port 17~24 = Utopia port 64~71

2.7.3 VCC counter

Vcc Counters	
DeviceID:0 TargetID:0	
Vcc interface rx and tx counters	
Port	PVC number
1	1
	Apply

2.7.4 Ether port counter

Ether Counters
DeviceID:0 TargetID:0

Ether interface rx and tx counters

Port	PVC number
1	1

Apply

2.7.5 Vcencap counter

Vcencap Group Counters
DeviceID:0 TargetID:0

Vc EngapGroup rx and tx counters

Group ID
1

Apply

2.7.6 Excpetion counter

Exception Counters
DeviceID:0 TargetID:0

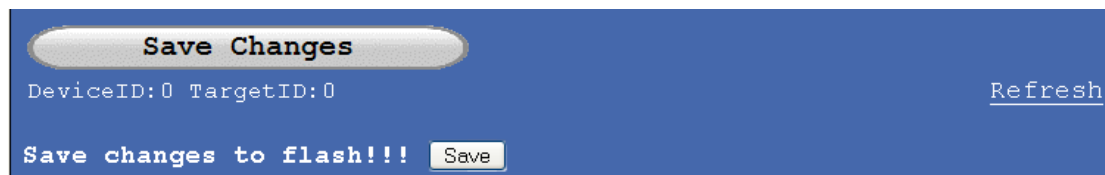
Exception rx and tx counters

Exception Entry ID
1

Apply

2.8 Configuration

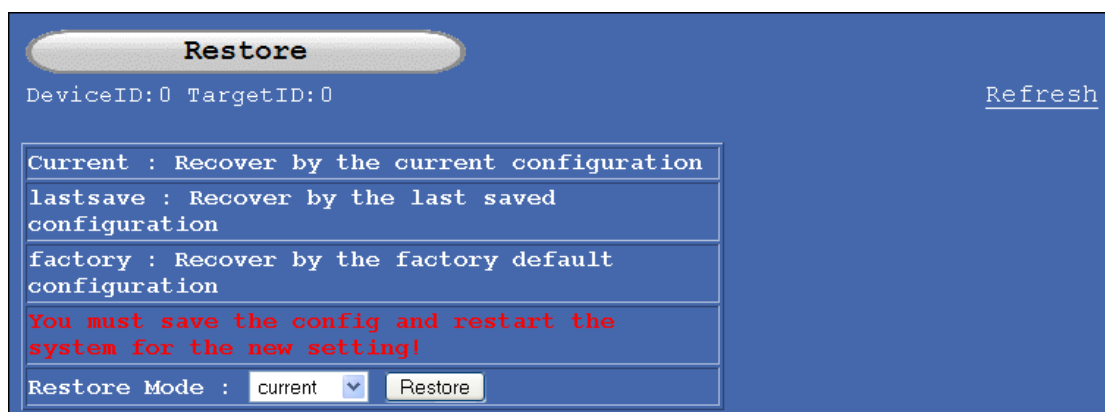
2.8.1 Configuration save



The screenshot shows a web interface for saving configuration changes. At the top, there is a button labeled "Save Changes". Below it, the text "DeviceID:0 TargetID:0" is displayed on the left, and a "Refresh" link is on the right. At the bottom, there is a message "Save changes to flash!!!" followed by a "Save" button.

SAVE the current configuration of NCT240 in to non volatile Memory

2.8.2 Restore



The screenshot shows a web interface for restoring configuration. At the top, there is a button labeled "Restore". Below it, the text "DeviceID:0 TargetID:0" is displayed on the left, and a "Refresh" link is on the right. The main area contains a table with the following rows:

Current	: Recover by the current configuration
lastsave	: Recover by the last saved configuration
factory	: Recover by the factory default configuration
You must save the config and restart the system for the new setting!	
Restore Mode :	current <input type="button" value="Restore"/>

Set the current configuration to last saved or factory default settings

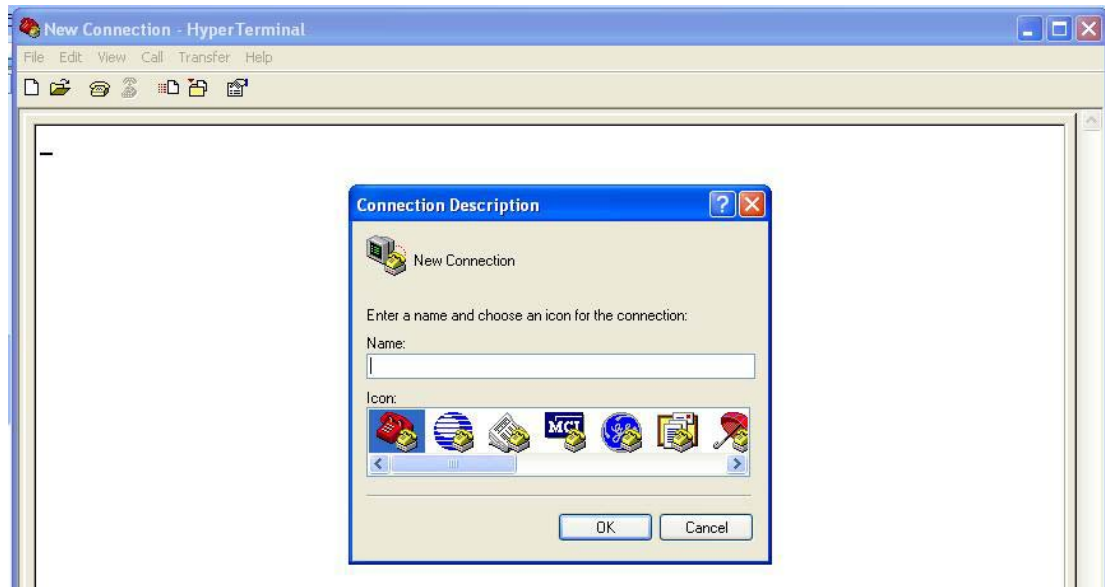
3. Configuring NCT240 by CLI Interface

To use “windows hyper terminal” to get into CLI interface, a configuration need to be set as the method below:

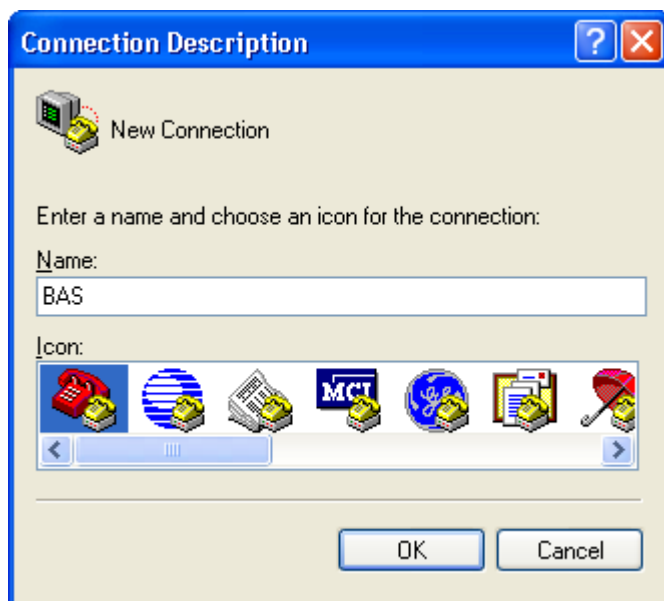
GOTO –

Start > Programs > Accessories > Communications > HyperTerminal

Creating a New connection



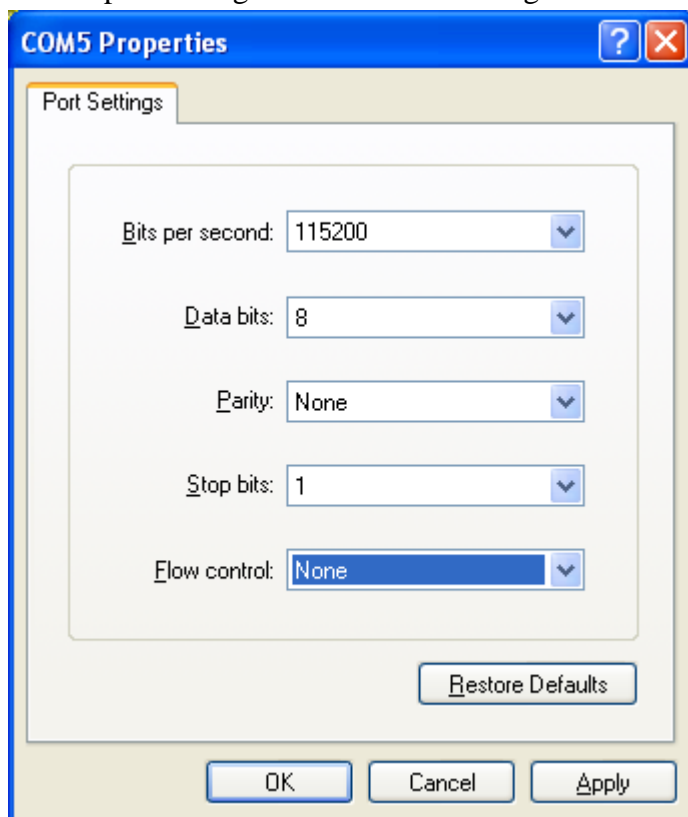
Give a Name to the connection



Select the comport the device is connected to - (if you are using a computer with a built in com-port the port number will be COM1 or COM2 but if you are using a RS232 to USB converter the number of com-port can be any other number)



Set the port settings as shown in the image below

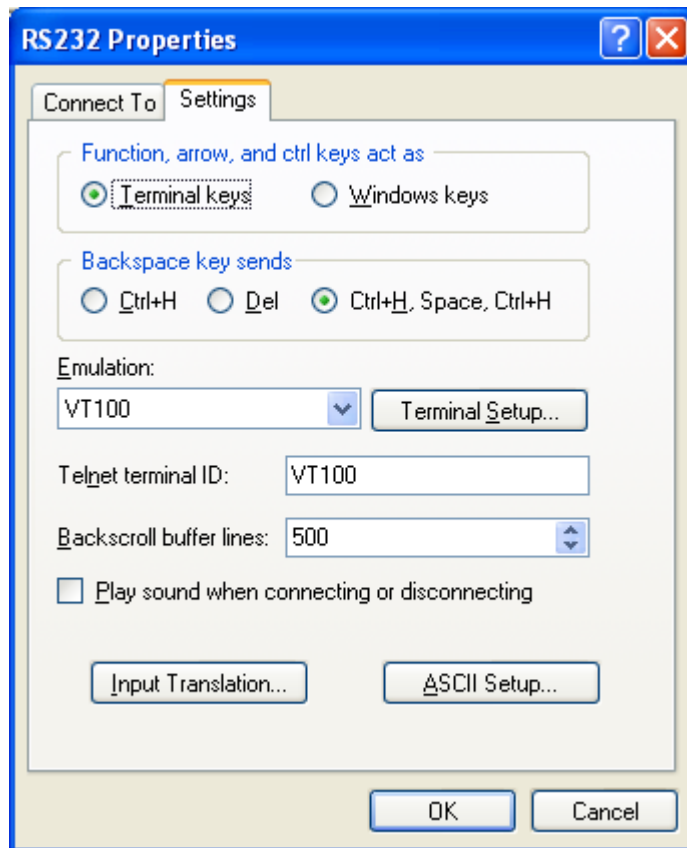


After completing the initial setup,

GOTO –

File > Properties > settings

And do the settings according to the window below.



Log in Process

When connected to the CLI please use the username/password – **admin/admin**;

BAS login: admin

Password: admin

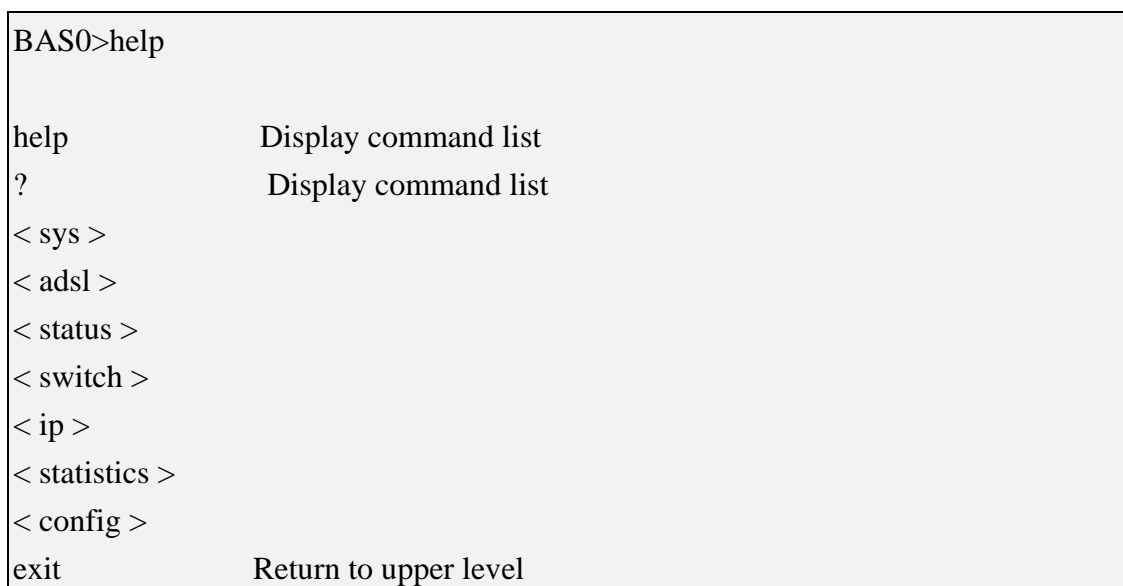
BAS>

This chapter introduces the command line interface and lists the available commands.

It is divided into 7 topics:

1. **System:-** Deal with system configuration and maintenance.
2. **ADSL:-** Introducing and configuring ADSL parameters.
3. **Status :-** Display the system status
4. **Switch:-** Deal with Switch functions, such as activates and configures IGMP, RSTP and other protocol parameters. (NOTE: some of the functions describe in this topic is still under development).
5. **IP:-** Deal with IP (Internet Protocol) parameters configuration.
6. **Statistics:-** Deal with Error performance and statistic counters.
7. **Config:-** Deal with system parameters and display settings.

After login, help command can be accessed at any time. Help command can be accessed by typing “help” or a “h”. Help command lists all the available commands that are accessible to the user. The following is a screenshot of the system.

A screenshot of a command-line interface showing the output of the 'help' command. The prompt is 'BAS0>'. The output lists several commands and their descriptions: 'help' (Display command list), '?' (Display command list), '< sys >', '< adsl >', '< status >', '< switch >', '< ip >', '< statistics >', '< config >', and 'exit' (Return to upper level).

```
BAS0>help

help          Display command list
?             Display command list
< sys >
< adsl >
< status >
< switch >
< ip >
< statistics >
< config >
exit          Return to upper level
```

Figure 1: Help menu under root directory

Figure 1 showed all the commands under root directory. User can access different directory by typing the corresponding directory name. For example, to enter *system* directory, just type “system” or simply “sys”. To return to parent directory, just type “exit”. To end CLI session, type “end” under root directory.

Command format

Some commands required parameter(s). The number of parameter required is different for each command. To know each command's parameters, just type the command name. For example, to know the command format for *XXX*, you can type *XXX*; the screen will show something like this:

XXX <aaa/bbb/ccd> <eee/fff> [ggg]

Each set of “<>” bracket represent a parameter and the possible options are enclosed within the bracket, separated by “|”. The option enclosed in the square bracket “[]” means this parameter is optional. In this example, we can see that command *XXX* has three parameters. There are 4 possible options for 1st parameter, namely *aaa*, *bbb*, *ccc* and *ddd*, and two possible option for 2nd parameter, namely *eee* and *fff*, and an optional 3rd parameter. For the command to be executed, you can either type:

XXX aaa eee ggg

or

XXX aaa eee

Both of them are valid input, since this command takes two OR three parameters.

SYSTEM:

These are the commonly used commands that belong to the sys (system) group of commands as the figure 2. You can input “help” or “?” for help.

BAS/sys>help

help	Display command list
?	Display command list
daisycontrol	The management of daisy chain
update	Update system version
info	Show general system information
user	Setup user information
reboot	Reboot the system
snmp	SNMP information
server	The device's service status and port numbers information
syslog	Log the system status and exception
time	The system's current time
date	The system's current date
timeserver	The system's time server
alarm	The recorded system alarm
exit	Return to upper level

sys command

daisycontrol

syntax: daisycontrol <show|setdevice|settarget|tsetslavenum|tshowslavenum>

- show Display the settings of daisy chain management.
- setdevice Set the local device ID.
- settarget Set the target ID.
- setslavenum Set the max slave number.
- showslavenum Show the max slave number.

Command usage :

BAS0/sys>daisy

The management of daisy chain.

Usage:

daisycontrol <show|setdevice|settarget|tsetslavenum|tshowslavenum>

show	Display the settings of daisy chain management.
setdevice	Set the local device ID.
settarget	Set the target ID.
setslavenum	Set the max slave number.
showslavenum	Show the max slave number.

Update

Syntax: update <system|setting|backup>

- system Update the system into new version.
- setting Update parameters setting.
- backup Backup the config files (ADSL/vcprofile) into remote .

command usage :

BAS0/sys>update

usage:

update <system|setting|backup>

system	Update the system into new version.
setting	Update parameters setting.
backup	Backup the config files (ADSL/vcprofile) into remote .

Info

This command shows general system setting about switch name, switch location, contact person and contact phone number.

Syntax: info <show | switchname | location | contact | phone>

- show – list all the settings of the info menu
- switchname – switch name
- location – switch location, you can set this device location into the system
- contact – contact person that you maybe contact to
- phone – contact phone number

Command usage:

```
BAS/sys>info
```

Show general system information.

Usage:

```
info <show| switchname| location| contact| phone>
```

show	Display general system information.
switchname	Set the switch name.
location	Set the location information.
contact	Set the contact person information.
phone	Set the contact phone number.

info command

User

The commands can add/del/list users in the system. It provides several methods of user management.

Syntax: user <add <username>|del <username>|list |online| passwd <username>>

- add – add an account and assign it's group to management or browse system.
- del – delete an account from the system
- list – list all registered users in the system
- online – list all online users in the system
- passwd – set or change users password in the system

Command usage :

BAS/sys>user

Setup user information.

Usage:

user <add| del| list| online| passwd>

add Add an account and assign it's group.

del Delete an account.

list List all registered users in the system

online List all online users in the system

passwd Set the user's password.

user command

Reboot

This command let user reboot the system.

Syntax: reboot <now >

Command usage:

BAS/sys>reboot

Reboot the system.

Usage:

reboot < now >

now Reboot the system immediately.

reboot command

SNMP

This command is for configuring SNMP agent:

Syntax:

snmp <show|getcommunity|setcommunity|trapcommunity>

- show Display SNMP settings.
- getcommunity Set the SNMP GetRequest community.
- setcommunity Set the SNMP SetRequest community.
- trapsetting Set the SNMP TrapCommunity, trapIP, trapPort.

Command usage:

```
snmp show
snmp getcommunity <getcommunity>
snmp setcommunity <setcommunity>
trapsetting <trap community> <trap receiver IP> <trap port>
```

Server

Syntax: server <show| enable <telnet| ftp| web| ssh>|disable <telnet |ftp| web| ssh>| port>

- show – display current server service status.
- enable – open the telnet, ftp, web or ssh server service
- disable – close the telnet, ftp, web or ssh server service
- port – show the port of a service

Command usage:

```
BAS/sys>server
```

The device's service status and port numbers information

Usage:

```
server <show| enable| disable| port><telnet| ftp| web| ssh>
```

- show Display the device's service status and port numbers.
- enable Turn on a service.
- disable Turn off a service.
- port Show the port of a service.

server command

Syslog

syslog is a utility for tracking and logging all manner of system messages from the merely informational to the extremely critical. Each system message sent to the syslog server has two descriptive labels associated with it that makes the message easier to handle

- The first describes the function (facility) of the application that generated it. For example, applications such as mail and cron generate messages with easily identifiable facilities named mail and cron
- The second describes the degree of severity of the message

Syntax: syslog <show|config|enable|disable|clean>

- show Display the system log.
- config Display the syslog settings.
- clean Clean the syslog show.
- enable Turn on the syslog logging.
- disable Turn off the syslog logging.

Command usage :

BAS/sys>syslog

Log the system status and exception.

Usage:

syslog <show|config|enable|disable|clean|server>

- | | |
|---------|-----------------------------------|
| show | Display the system log. |
| config | Display the syslog settings. |
| clean | Clean the syslog show. |
| enable | Turn on the syslog logging. |
| disable | Turn off the syslog logging. |
| server | Log message to remote log server. |

syslog command

Time

This command can display and set system's time.

Syntax: time <show | set>

- show – display system time
- set – set system time

Command usage:

- set time use this format hh:mm:ss
- NCT240 uses 24 hours format

```
BAS/sys>time
```

The system's current time

Usage:

time <show| set>

- | | |
|------|------------------------------------|
| show | Display the system's current time. |
| set | Set the system's time. |

time command

Date

This command can display and set system's date.

Syntax: date <show | set>

- show – display system date
- set – set system date

Command usage:

- set date use this format yyyy:mm:dd

BAS/sys>date

The system's current date

Usage:

date <show| set>

show Display the system's current date.

set Set the system's date.

date command

Timeserver

This command can display and use system's time server.

Syntax: timeserver <show | set>

- show – display system's time server
- sync – retrieves the date and time from the timeserver

BAS/sys>timeserver

Usage:

timeserver <show|sync|setting>

show Display the system's time server.

sync Retrieves the date and time from the timeserver.

setting Set the IP of timeserver,Set the periods of sync.

timeserver command

Alarm

Syntax: alarm <show>

show Display the recorded system alarm.

alarm show <current|history>

Command usage:

```
BAS0/sys>alarm
```

The recorded system alarm.

Usage:

```
alarm <show>
```

show Display the recorded system alarm.

```
BAS0/sys>alarm show
```

Usage:

```
alarm show <current|history>
```

ADSL:

This chapter explains how to configure NCT240 system's ADSL ports. It also covers how to configure virtual channels and virtual channel profiles.

A profile is a table that contains a list of pre-configured ADSL settings. Each ADSL port has one profile assigned to it. The profile defines the latency mode and upstream/downstream latency delay maximum and minimum upstream/downstream rates, the target upstream/downstream signal noise margins, and the maximum and minimum upstream/downstream acceptable noise margins of all the ADSL ports that have this profile. You can configure multiple profiles, including profiles for troubleshooting.

help	Display command list
?	Display command list
enable	Turn on the specified ADSL ports
disable	Turn off the specified ADSL ports
profile	Display, create, modify, delete, or copy an ADSL line profile
name	Set the name of the port
linediag	set,get line diagnostics
vcprofile	display, create, modify, delete a virtual channel profile
alarmprofile	Display, create, modify, delete, or copy an ADSL line alarmprofe
pvc	Display, create, modify, and remove a PVC setting
exit	Return to upper level

adsl command

Enable

Syntax: enable <port>

- enable an ADSL port

Command usage:

BAS/adsl>enable

Turn on the specified ADSL ports

Usage:

enable portlist (1-24)

BAS/adsl>enable 1~24 (will enable all the ports)

enable command

Disable

Syntax: disable <port>

➤ disable an ADSL port

Command usage:

BAS/adsl>disable

Turn off the specified ADSL ports

Usage:

disable portlist (1-24)

BAS/adsl>disable 1~24 (will disable all the ports)

disable command

Profile

Syntax: profile <show| set| delete| map>

- show –show an ADSL profile
- set – create an ADSL line profile downstream max rate – downstream minimum rate
- delete – remove an ADSL profile
- map – assign a specified profile to a port and set the port's ADSL mode

Command usages:

- set – the default
- delete – the default
- map <portlist> <profile> <glite| gdmt| t1413| auto| adsl2>

```
BAS/adsl>profile
```

Display, create, modify, delete, or copy an ADSL line profile

Usage:

```
profile <show| set| delete| map>
```

- | | |
|--------|--|
| show | Show an ADSL profile. |
| set | Create an ADSL line profile. |
| delete | Remove an ADSL profile. |
| map | Assign a specified profile to a port and set the port's ADSL mode. |

profile command

Name

Syntax: name <port> <name>

- Give a name for ADSL port profile

```
BAS/adsl>name
```

Enter port number you want to set

name command

Line diagnostic

Syntax: linediag <port number>

- Run line diagnostic on the specified port

Command usage:

```
BAS/adsl>linediag
```

Usage:

linediag

Set the specified port to line diagnostics and display the result.

Vcprofile

Syntax: vcprofile <show| set| delete>

- show – show a virtual channel profile's contents
- set – create a VBR virtual channel profile (with encapsulation)
- delete – remove a virtual channel profile (with encapsulation)

Command usage:

```
BAS/adsl>vcprofile
```

display, create, modify, delete a virtual channel profile

Usage:

vcprofile <list|show|set|delete>

list	List all exist vcprofiles.
show	Show a virtual channel profile's contents.
set	Create a VBR virtual channel profile (with encapsulation).
delete	Remove a virtual channel profile (with encapsulation).

vcprofile command

Vcprofile set,

Syntax:

vcprofile set vcprofilename EncapsulationType(0|1) VPI(0~4095) VCI(0~65535)

Alarmprofile

Syntax: alarmprofile <show| set| delete| map>

- show – display alarm profiles and their settings
- set – configure an alarm profile
- delete – remove an alarm profile
- map – map specified ADSL ports to an alarm profile

Command usage:

BAS/adsl>alarmprofile

Display,create,modify,delete,or copy an ADSL line alarmprofile

Usage:

alarmprofile <list| show| set| delete| map>

list	List all alarm profiles.
show	Display alarm profiles and their settings.
set	Configure an alarm profile.
delete	Remove an alarm profile.
map	Map specified ADSL ports to an alarm profile.
showmap	Showmap Display alarm profile to ADSL mapping
showport	Showport Display which alarm profile parameters set

vcprofile command

PVC

Syntax: pvc <list|show| set| delete>

- list – lists set PVCs
- show –display PVC settings
- set –create or modify a PVC setting
- delete –remove a PVC setting

Command usage:

```
BAS/adsl>pvc
```

Display, create, modify, and remove a PVC setting

Usage:

```
pvc <list|show| set| delete>
```

list	List all mapped vcprofiles for all port.
show	Display PVC settings.
set	Create or modify a PVC setting.
delete	Remove a PVC setting.

pvc command

Status:

This chapter will guide user to show some system status.

help	Display command list
?	Display command list
exit	Return to upper level
chstatusget	channel status get
linestatusget	line status get
linestateget	line state get

status command list

Chstatusget

Syntax: chstatusget

Example:

```
BAS/status>chstatusget
```

```
channel status get
```

Usage:

```
chstatusget nLine(1-24) nChannel(0) nDirection(0-1)
```

Chstatusget command

Linestatusget

This command will list the line status.

Syntax: linestatusget

Command usage:

```
BAS/status>linestatusget
```

```
line status get
```

Usage:

```
linestatusget nLine(1-24) nDirection(0-1)
```

linestateget command

Linestateget

This command will list the line states.

Syntax: linestateget

Example:

```
BAS/status>linestateget
```

```
line state get
```

Usage:

```
linestateget nline(1-24)
```

linestatusget command

SWITCH:

This chapter will guide user how to configure the NCT240 switch features.

help	Display command list
?	Display command list
queuemap	The system's priority level to physical queue mapping
vlan	Setting VLAN
portvlan	Setting port based vlan group
mac	
8021_x	802_1x protocol settings
igmpsnoop	igmp configuration
dhcprelay	
eth	The Ethernet port settings
looptest	The loop setting
exit	Return to upper level

switch command list

Queuemap

This command display system related physical queue map and set a degree to a physical queue.

Syntax: queuemap <show | set <priority> <queue>>

Command usage:

BAS/switch>queuemap	
The system's priority level to physical queue mapping	
Usage:	
queuemap <show set>	
show	Display the system's priority level to physical queue mapping.
set	Map a priority level to a physical queue.

queuemap command

VLAN

Usage:

vlan <show|portshow|basicset|advset|switchmode|frametype>

- show Display VLAN settings.
- portshow Display the port(s) VLAN settings.
- basicset Basic Configuration of a VLAN entry.
- advset Advanced Configuration of a VLAN entry.
- switchmode Set forwarding mode.
- frametype Set the specified DSL port to accept tagged, untagged or Ethernet frames (or both).

BAS/switch>vlan

Usage:

vlan <show|portshow|basicset|advset|switchmode|frametype>

- show Display VLAN settings.
- portshow Display the port(s) VLAN settings.
- basicset Basic Configuration of a VLAN entry.
- advset Advanced Configuration of a VLAN entry.
- switchmode Set forwarding mode.
- frametype Set the specified DSL port to accept tagged, untagged or Ethernet frames (or both).

MAC

Syntax: mac <agingtime|agingtimeshow|filter>

- agingtime Set MAC table aging time
- agingtimeshow Show MAC table aging time
- filter Set MAC filter table

BAS/switch>mac

Usage:

mac <agingtime|agingtimeshow|filter>

- agingtime Set MAC table aging time
- agingtimeshow Show MAC table aging time
- filter Set MAC filter table

802.1x

Syntax: 802_1x <show|portmode|enable|disable|portenable|portdisable|config|timer>

- show - Display IEEE 802.1X settings.
- Enable - Enable 802.1x protocol
- disable - Disable 802.1x protocol
- portmode - Set portmode on special ports
- portenable - Turn on IEEE 802.1X on special ports.
- Portdisable - Turn off 802.1X on special ports.
- Config - config radius settings.
- timer - timer set of 802.1X protocol.

Command usage

802_1x <show|portmode|enable|disable|portenable|portdisable|config|timer>

802_1x show <port range>

802_1x <enable>

802_1x <disable>

802_1x portmode <portlist> <portmode>

802_1x portenable <port range>

802_1x portdisable <port range>

802_1x config <radiusserverIP> <serverport> <authport> <NasIP>

<aucNasIdentifier> <sharedkey>

802_1x timer <quietPeriod> <txPeriod> <suppTimeout>

<serverTimeout> <reAuthMax reAuthPeriod>

IGMP snooping

Syntax: igmpsnoop <show|set|enable|disable|fastleave>

- show - Display the IGMP snooping setting.
- set - Set the IGMP snooping VPI/VCI/VID/PRI.
- enable - Turn on IGMP snooping.
- disable - Turn off IGMP snooping.
- fastleave - onfig IGMP fastleave settings.
- Showentry - show the igmp table entry.

Command Usage:**igmpsnoop** <show|set|enable|disable|fastleave>**igmpsnoop** <show>**igmpsnoop set** <VPI(0~4095)> <VCI(0~65535)> <VID> <Priority>**igmpsnoop** <enable> Turn on IGMP snooping.**igmpsnoop** <disable>**igmpsnoop fastleave** <enable>|<disable>**igmpsnoop** <showentry>**DHCP relay, option 82****Syntax:****dhcprelay** <show|enable|disable|server>

- show - show settings and status of dhcp relay.
- enable - Turn on DHCP relay option 82.
- disable - Turn off DHCP relay option 82.
- server - Set a DHCP server IP address .

Command usage:**dhcprelay** <show|enable|disable|server>**dhcprelay** <show>**dhcprelay** <enable>**dhcprelay** <disable>**dhcprelay server** <ip:xxx:xxx:xxx:xxx>**Eth****Syntax:** eth <show| speed| enable| disable>

- show – display the Ethernet port settings
- speed – set the Ethernet port(s) connection speed
- enable – Turn on the specified Ethernet port
- disable – Turn off the specified Ethernet port

Looptest

Using this command you can diagnostic this device through four ways loops.

Syntax: looptest <ingutopia|egutopia|ingge0|egge0|disable>

- ingutopia - LoopLine Interface, UTOPIA Ingress Loop enable
- egutopia - LoopLine Interface, UTOPIA Egress Loop enable
- ingge0 - System Interface, LAN Interface Ingress Loop enable
- egge0 - System Interface, LAN Interface Egress Loop enable
- disable - All Loop disable

IP:

A set of IP commands may be used for management access to NCT240 over your network.

help	Display command list
?	Display command list
show	Display the management ip address settings
arp	Display, flush the device ARP table
set	Set the management ip address and subnet mask and mac address
gateway	Set the default gateway of the device's default gateway
route	The routing table.
ping	Ping a remote host
exit	Return to upper level

IP command list

show

Syntax: show

- show – displays the IP settings for this device

Command usage:

```
BAS/ip>show

ixp0    ip addr:      192.168.1.1
        mac addr: 00:aa:aa:aa:aa:aa
        gateway:  0.0.0.0
        net mask: 255.255.255.0

eth0    ip addr:      192.168.0.1
        mac addr: 00:05:ca:00:04:10
        gateway:  0.0.0.0
        net mask: 255.255.255.0
```

Figure 29 : show command

Arp**Syntax:** arp <show | flush>

- show – displays the ARP table
- flush – remove all of the entries from the ARP table

Command usage:

arp <show|flush>

arp show <device ID>**arp** <flush>***** Device IP : uplink = eth0 , MGMT = ixp0****Set****Syntax:** set <ip| netmask| mac>

- ip –set the management ip address
- netmask –set the management subnet mask
- mac –set the management mac address

Command usage:**set** <ip|netmask|mac|vlan>**set ip** <device ID> <ip>**set netmask** <device ID> <netmask>**set mac** <device ID> <MAC>**set vlan** <enable|disable> <VID>**Gateway**

Use this command to establish a static route between this device and management stations that exist on another network segment.

Syntax: gateway <gateway ip>

- gateway ip – the IP address of the gateway that you want to send the packets through

Command usage :**gateway** <gateway ip>

*** the Device to which the Gateway is set will be selected automatically

Route

Use this command to display the routing table.

Syntax: route <show>

- show – display the routing table

Command usage:**route** <show>**Ping**

This is an IP facility to check for network functionality by sending an echo request to another IP host and waiting for the replay

Syntax: ping <ip> [count]

- ip – the IP address of the target
- count – the number of pings you want the NCT240 to send

Command usage :

ping <ip> <count>

STATISTICS:

Use these commands to display ADSL statistics.

help	Display command list
?	Display command list
adsl	Display DSL statistics
ethuto	Display UTOPIA VCC ETHER GE data
exit	Return to upper level

Figure 35 : statistics command list

Adsl

Syntax: adsl < 15mperf|1dayperf|15mdpc|1daydpc>

- 15mperf – display the line performance statistics for the current and previous 15-minute periods
- 1dayperf –display the line performance statistics for the current and previous 24 hours
- 15mdpc – display the data path counters statistics for the current and previous 15-minute periods
- 1daydpc – display the data path counters statistics for the current and previous 24 hours

Example;

BAS/statistics>adsl

Display DSL statistics

Usage:

adsl <15mperf|1dayperf|15mdpc|1daydpc>

15mperf	Display the line performance statistics for the current and previous 15-minute periods.
1dayperf	Display the line performance statistics for the current and previous 24 hours.
15mdpc	Display the data path counters statistics for the current and previous 15-minute periods.
1daydpc	Display the data path counters statistics for the current and previous 24 hours.

adsl command

Ethuto

Syntax: ethuto <utopia| vcc| ether| ge| vcencapgroup| exception>

- utopia –display UTOPIA port rx and tx counters
- vcc –display Vcc interface rx and tx counters
- ether –display ether interface rx and tx counters
- ge – display ge port rx and tx counters
- vcencapgroup – display Vc EncapGroup rx and tx counters
- exception – display exception rx and tx counters

Command Usage:

```
BAS/statistics>ethuto
```

Display all counter data

Usage:

```
ethuto <utopia| vcc| ether| ge| vcencapgroup| exception>
```

utopia	Display UTOPIA port rx and tx counters.
vcc	Display Vcc interface rx and tx counters.
ether	Display Ether interface rx and tx counters.
ge	Display GE port rx and tx counters.
vcencapgroup	Display Vc EncapGroup rx and tx counters.
exception	Display Exception rx and tx counters.

ethuto command

CONFIG:

These command let user save/restore/set default the configuration in system.

help	Display command list
?	Display command list
save	Save the current configuration
restore	Recover the specified configuration
exit	Return to upper level

config command list

Save

This command saves all system configurations to nonvolatile memory. You must use this command to save any configuration changes that you make, otherwise the NCT240 will ignore the changes. Save your changes after each configuration session.

Syntax: save

- use this command to save your configuration when you are done with a configuration session

command usage:

```
BAS/config>save
```

```
Do you want to save the current configuration? (y/n)
```

save command

Restore

This command will reload the last correct configuration in the system. Using this command you can easily back to the latest successful configuration

Syntax: restore <current| last| factory>

- current – recover by the current configuration
- last – recover the by last saved configuration
- factory – recover by the factory default configuration

Command usage:

```
BAS/config>restore
```

Recover the specified configuration

Usage:

```
restore <current| last| factory>
```

current	Recover by the current configuration.
last	Recover by the last saved configuration.
factory	Recover by the factory default configuration.

restore command

4. Troubleshooting

Troubleshooting guide

Trouble	Possible cause	Solution
PWR indicator does not light up after power on.	Power outlet, power cord, or internal power supply may be defective.	<ul style="list-style-type: none"> • Check the power outlet by plugging in another device that is functioning properly. • Check the power cord with another device.
SYS indicator does not light up after startup.	Microprocessor, SDRAM, Flash or Software may be defective.	<ul style="list-style-type: none"> • Verify that the switch is powered on. • Check the boot-up statement from console. The boot up procedure is Boot -> kernel->application •
ADSL2+ LINK indicator does not light up after making a connection.	NCT240 Switch, cabling, ADSL Line, or ADSL Switch Ports may be defective.	<ul style="list-style-type: none"> • Verify that the Access Switch and attached CPE are powered on. • Be sure the RJ-21 cables are plugged into the Access Switch from ADSL2+ modem through the Phone-line punch-down block. • Verify that the cable length does not exceed specified limits. • Check the cable connections on the access Switch, punch-down block/patch panel, and the Extended Ethernet CPE for possible defects. Replace the defective cable if necessary.
UP LINK indicator does not light up after making a connection.	Network cable or Ethernet device attached to this port may be defective.	<ul style="list-style-type: none"> • Verify that the access switch and attached device are powered on. • Be sure an Ethernet cable is plugged into both the switch and attached device. • Verify that the proper cable type is used and its length does not exceed specified limits. • Check the network cable connections for possible defects. Replace the defective cable if necessary.

Cannot ping uplink		
-------------------------------	--	--

6. Glossary

10BASE-T

IEEE 802.3 specification for 10 Mbps Ethernet over two pairs of Category 3, 4, or 5 UTP cable.

100BASE-TX

IEEE 802.3u specification for 100 Mbps Fast Ethernet over two pairs of Category 5 UTP cable.

100BASE-FX

IEEE 802.3u specification for 100 Mbps Fast Ethernet over two strands of 50/125, 62.5/125 or 9/125 micron core fiber cable.

1000BASE-T

IEEE 802.3ab specification for Gigabit Ethernet over 100-ohm Category 5 or 5e twisted-pair cable (using all four wire pairs).

Auto-Negotiation

Signalling method allowing each node to select its optimum operational mode (e.g., 10 Mbps or 100 Mbps and half or full duplex) based on the capabilities of the node to which it is connected.

Bandwidth

The difference between the highest and lowest frequencies available for network signals. Also synonymous with wire speed, the actual speed of the data transmission along the cable.

Collision

A condition in which packets transmitted over the cable interfere with each other. Their interference makes both signals unintelligible.

Collision Domain

Single CSMA/CD LAN segment.

CSMA/CD

CSMA/CD (Carrier Sense Multiple Access/Collision Detect) is the communication method employed by Ethernet, Fast Ethernet, or Gigabit Ethernet.

End Station

A workstation, server, or other device that does not forward traffic.

Ethernet

A network communication system developed and standardized by DEC, Intel, and Xerox, using baseband transmission, CSMA/CD access, logical bus topology, and coaxial cable. The successor IEEE 802.3 standard provides for integration into the

OSI model and extends the physical layer and media with repeaters and implementations that operate on fiber, thin coax and twisted-pair cable.

Fast Ethernet

A 100 Mbps network communication system based on Ethernet and the CSMA/CD access method.

Gigabit Ethernet

A 1000 Mbps network communication system based on Ethernet and the CSMA/CD access method.

Full-Duplex

Transmission method that allows two network devices to transmit and receive concurrently, effectively doubling the bandwidth of that link.

IEEE

Institute of Electrical and Electronic Engineers.

IEEE 802.3

Defines carrier sense multiple access with collision detection (CSMA/CD) access method and physical layer specifications.

IEEE 802.3ab

Defines CSMA/CD access method and physical layer specifications for 1000BASE-T Fast Ethernet.

IEEE 802.3u

Defines CSMA/CD access method and physical layer specifications for 100BASE-TX Fast Ethernet.

IEEE 802.3x

Defines Ethernet frame start/stop requests and timers used for flow control on full-duplex links.

IEEE 802.3z

Defines CSMA/CD access method and physical layer specifications for 1000BASE Gigabit Ethernet.

Local Area Network (LAN)

A group of interconnected computer and support devices.

LAN Segment

Separate LAN or collision domain.

LED

Light emitting diode used for monitoring a device or network condition.

Local Area Network

A group of interconnected computers and support devices.

Media Access Control (MAC)

A portion of the networking protocol that governs access to the transmission medium, facilitating the exchange of data between network nodes.

MDF (Main Distribution Frame)

Equipment where outside telephone lines are terminated at a building or site.

MIB

An acronym for Management Information Base. It is a set of database objects that contains information about the device.

MPOE (Minimum or Main Point of Entry)

The location in a building where cables from the telephone service provider are terminated.

Network Diameter

Wire distance between two end stations in the same collision domain.

Private Branch Exchange (PBX)

A telephone exchange local to a particular organization who use, rather than provide, telephone services.

POTS

Plain Old Telephone Service.

Redundant Power Unit (RPU)

A backup power supply that automatically takes over in case the primary power supply should fail.

RJ-45 Connector

A connector for twisted-pair wiring.

Splitter

A filter to separate DSL signals from POTS signals to prevent mutual interference.

Switched Ports

Ports that are on separate collision domains or LAN segments.

Transmission Control Protocol/Internet Protocol (TCP/IP)

Protocol suite that includes TCP as the primary transport protocol, and IP as the network layer protocol.

UTP

Unshielded twisted-pair cable.

ADSL

asymmetric data rate Digital Subscriber Line: A family of digital telecommunications protocols designed to allow high speed data communication at data rates deliver data rates up to 25 Mbps downstream and 1 Mbps upstream with corresponding maximum reach 18K feet of 24 gauge twisted pair cable over the existing copper telephone lines between end-users and telephone companies.

Virtual LAN (VLAN)

A Virtual LAN is a collection of network nodes that share the same collision domain regardless of their physical location or connection point in the network. A VLAN serves as a logical workgroup with no physical barriers, allowing users to share information and resources as though located on the same LAN.

Product Warranty

NetComm products have a standard 12 months warranty from date of purchase. However some products have an extended warranty option, via registering your product online at the NetComm website www.netcomm.com.au.

Technical Support

If you have any technical difficulties with your product, please refer to the support section of our website.

www.netcomm.com.au/support

Note: NetComm Technical Support for this product only covers the basic installation and features outlined in the Quick Start Guide. For further information regarding the advanced features of this product, please refer to the configuring sections in the User Guide or contact a Network Specialist.

NetComm®
www.netcomm.com.au

NETCOMM LIMITED PO Box 1200, Lane Cove NSW 2066 Australia
P: 02 9424 2070 **F:** 02 9424 2010
E: sales@netcomm.com.au **W:** www.netcomm.com.au

 **Dynalink**
www.dynalink.co.nz

DYNALINK NZ 224b Bush Road, Albany, Auckland, New Zealand
P: 09 448 5548 **F:** 09 448 5549
E: sales@dynalink.co.nz **W:** www.dynalink.co.nz